South African Journal of Information Management
ISSN: (Online) 1560-683X, (Print) 2078-1865

Fintechs in South Africa: Impact on regulation, incumbents and consumers

Authors:
Simphiwe K. Cele[1]
Nhlanhla W. Mlitwa[1]

Affiliations:
[1]School of Business Leadership, University of South Africa, Midrand, South Africa

Corresponding author:
Simphiwe Cele,
simphykc@yahoo.co.uk

Dates:
Received: 11 Sept. 2023
Accepted: 08 Dec. 2023
Published: 14 Mar. 2024

How to cite this article:
Cele, S.K. & Mlitwa, N.W., 2024, 'Fintechs in South Africa: Impact on regulation, incumbents and consumers', *South African Journal of Information Management* 26(1), a1766. https://doi.org/10.4102/sajim.v26i1.1766

Background: The financial services industry in South Africa has undergone many changes that have given birth to fintechs. Most of these changes are driven by the advent of technology and evolving customer expectations. Fintechs have led to process disruptions and business model transformations, yet their implications have yet to be sufficiently studied. Therefore, it is essential to close this knowledge gap by investigating the impact of fintechs on this industry.

Objectives: This research aimed to investigate the impact of fintechs in the financial services industry in South Africa.

Method: A qualitative study was conducted in which 18 industry experts were interviewed using semi-structured interviews. The interviews were audio-recorded and transcribed for data analysis. ATLAS.ti 22 was used to organise and analyse data.

Results: Fintechs increase competition for the incumbents, reduce profits, expose the inability of the incumbents to be agile and introduce new regulatory risks in the financial services industry. In contrast, fintechs have also brought some positive changes into the industry: financial inclusion, new growth opportunities, increasing choices for consumers and making the industry more competitive, reducing costs, customising financial services, bringing convenience and forcing incumbents and regulators to become more innovative.

Conclusion: This study uncovered the positive and negative effects of fintechs in financial services in South Africa.

Contribution: The study will benefit academia by expanding the body of knowledge about fintech research and improving the holistic understanding of this field in emerging economies, which can inspire future research on fintech and its application.

Keywords: fintechs; financial technologies; impact; regulatory risk; sandboxes; agility; competition; financial inclusion; growth opportunities; convenience.

Introduction

Innovations and industry changes have varying effects on industries and industry players, some positive and some negative. Gaining a competitive advantage is one of the positive effects while losing market share is one of the negative effects. The rise of fintechs has brought about several changes in financial services with similar effects (Elia, Stefanelli & Ferilli 2022; Gomber, Koch and Siering 2017). These changes affect the whole value system and all stakeholders and challenge the fundamentals of this industry (Alblooshi 2022). They are creating new business models and new expectations from consumers changing a variety of financial products, services, production processes and organisational structures (Elsaid 2021), enabling consumers to gain greater control over their finances and disrupting the fundamentals of the industry (Goyal et al. 2023). According to the World Economic Forum and Accenture (2017), for successful and thriving financial services, industry players should view these changes as an ally that will improve the industry, provide quality expertise to organisations and individuals and increase efficiency.

The International Monetary Fund (IMF) and World Bank Group launched the Bali Fintech Agenda (BFA) in 2018 to address issues countries should consider in their fintech policies to embrace the benefits and opportunities while managing the risks. The BFA components address topics such as enabling fintech, ensuring sector resilience, dealing with threats and promoting international cooperation. The BFA stems from a desire to comprehend how technological innovations affect financial services and their implications for efficiency, financial stability, integrity and inclusion (IMF 2019).

Although fintech has emerged and piqued much interest in the financial services industry, understanding its application and implications has not been studied adequately (Elia et al. 2022). Liu, Li and Wang (2020) argue that research on the overall fintech business model and analysis is lacking because much attention has been on disruptive innovation in general. As a result, investigating the impact of fintechs on the financial services industry, especially in developing countries such as South Africa, has been neglected.

Consequently, there is significant academic interest in studying the effects of fintechs on the financial services industry, particularly in developing countries where their implications have not been adequately studied. There is also curiosity about whether fintechs provide new opportunities for sustainable growth in the financial services industry (Najaf et al. 2022).

This research, therefore, aimed to investigate the impact of fintechs on the financial services industry in South Africa.

Literature review

Effects of fintechs

The emergence of fintechs has introduced several changes in the financial services industry. These changes are characterised by positive and negative effects on the industry and the different industry players. The positive effects include the introduction of new technologies that reduce the cost of financial services (Tsindeliani et al. 2022), open market access for new entrants broadened access to new segments of the market and customers (Elia et al. 2022), financial inclusion (Nguyen, Tran & Ho 2021) and business model transformation (Sy et al. 2019). In contrast, the negative effects include increased competition for incumbents and new regulatory risks (Elia et al. 2022).

Business model transformation

The rise of fintechs has introduced new challenges to incumbents' business models, forcing them to modify their business models (Elia et al. 2022). Fintechs also create high-quality products and services at lower prices, forcing incumbents to lower their prices (Tsindeliani et al. 2022). Fintechs have also introduced branchless financial services, threatening face-to-face customer interactions that are important in upselling and cross-selling, both commonly used by banks (Singh 2004). Eliminating face-to-face customer contact means losing out on cross-selling opportunities, which could harm bank profitability.

Furthermore, fintechs customise employee involvement and engagement, and as a result, they offer a good mix of features to provide the right value proposition. Fintech companies use technologies to promote an agile culture that fosters creativity (Alblooshi 2022); thus, they appeal to the labour market, especially the youth. This helps them to attract the best talent compared to the traditional players (Gomber et al. 2017). These attributes contribute to the agility culture that fintechs have, enabling fintechs to react faster than incumbents and adapt to changing consumer needs (Alblooshi 2022). As a result, fintechs challenge the traditional players to transform their business models, organisational structure and thinking (Hornuf & Haddad 2019).

Technologies such as robotics and artificial intelligence provide analytics that enables financial services institutions to make financial decision, such as whom to lend money to and how much more efficiently instead of using the traditional credit scoring methods (Alblooshi 2022) and help reduce costs (Tsindeliani et al. 2022). For example, in the lending and insurance industries, these technologies help to improve risk assessment accuracy with new business models assessing consumer risks and handling claims (Tsindeliani et al. 2022).

Better products and services

Fintechs force incumbents to improve their business models and value prepositions (Gomber et al. 2017). Thus, fintechs help the industry develop better products and services (Christensen 2002). They create new business models that provide customers with better service experiences, diversity in products or services to choose from and products and services that are easy and convenient to use (Lenz 2016). For example, mobile payments have improved payment gateways. At the same time, digital banks allow consumers to choose whether to go to the bank branch or access the services on their phones or other electronic devices (Buckley, Arner & Barberis 2016).

Fintechs also simplify financial services and products, making them affordable and accessible (Mazambani & Mutambara 2019). Moreover, fintechs create customised services and products that address individual consumers' needs at the right time (Alblooshi 2022).

Financial inclusion

Fintechs, such as online lending, have improved access to money for individuals and small enterprises, which usually struggle to borrow from the incumbents. Furthermore, crowdfunding fintechs increase financial inclusion because they are more open to consumers than traditional financial institutions (Elia et al. 2022). As such, they promote financial democracy and inclusion for lenders and borrowers (N'dri & Kakinaka 2020).

Furthermore, fintech-driven credit models enhance financial inclusion (Edu 2022) by giving borrowers better loan ratings while receiving reduced interest on their loans (Nguyen et al. 2021). Financial technologies also facilitate faster credit assessments and provide more robust credit risk profiling (Elia et al. 2022). These are aided by the analytics from big data drawn from consumers' digital activities (Edu 2022).

In addition, digital banks increase access for consumers by giving them freedom to bank at their convenience. Because of digital banks and other fintechs, consumers can now bank anywhere and at any time. Essentially, fintechs have removed the question of space and time in banking (Tsindeliani et al. 2022).

New regulatory risks

The rise of fintechs has created challenges, such as competition for incumbents, and introduced new regulatory risks in the financial services industry (Tsindeliani et al. 2022). These challenges have created legal uncertainty because fintechs are not regulated like the incumbents (Nguyen et al. 2021). This creates an imbalance in the system. The new challenges have forced industry regulators to expand the regulatory framework to incorporate fintechs (Elia et al. 2022). This has been met with several challenges, such as the following as listed by the International Monetary Fund (2019):

- There is limited experience in regulating fintech activities, services and products because many countries do not have enough expertise to regulate fintechs.
- Some countries, especially emerging countries, lack the resources to provide adequate responses and build regulatory capacity.
- International standards for regulating and supervising fintech activities are still in their infancy. Therefore, there is a concern that these limitations might result in cross-border regulatory arbitrage.
- There is a significant gap in managing cyber risk between high- and low-income countries.

Research methods and design

Researchers had to be very careful while selecting the population sample to ensure that it consisted of individuals with diverse opinions and a thorough understanding of financial technologies in the South African financial services industry. To ensure this, the target population chosen included executives of incumbent financial institutions, experts, regulatory institutions and fintech companies. A purposive non-probability sampling method was used. The executives of incumbents were selected from a population of 32 banks that are members of the Banking Association of South Africa. The fintech executives were chosen from a population of fintechs that are likely to significantly disrupt the South African financial services industry, such as digital-only banks, mobile payment and lending platforms. Regulatory executives were selected from the Intergovernmental Fintech Working Group (IFWG) members. Ultimately, a sample of 18 industry experts was used.

Researchers conducted semi-structured interviews between December 2021 and May 2022 to gain insight into traditional financial institutions and understand their perspectives on the research phenomena. This approach allowed the researcher to study the benefits and challenges that fintechs introduce to the financial services industry. The executives of the financial institutions were contacted via email. Once they agreed to participate, they were sent a Microsoft (MS) Teams meeting request with the interview time and date. All the interviews were recorded on MS Teams and transcribed using Fireflies.ai – AI Notetaker. The interview questions (Appendices 1, 2 and 3) were derived from themes that emanated from the literature review.

The data collected from the industry experts using interviews were transcribed using Fireflies.ai – AI Notetaker. After that, it was organised into similar themes and ideas using Atlas.ti 22. Thematic analysis provided a comprehensive and detailed depiction of the data. It enabled the researcher to systematically analyse the data, identify recurring themes, and connect them to the content that enhances the overall meaning of the research. The thematic analysis helped to examine the perspectives of industry experts, highlighting commonalities and differences and generating insights. Additionally, this method allowed the researcher to summarise the key features of the dataset clearly and concisely.

Thematic analysis was conducted using the following steps:

- Researchers carefully reviewed and organised the collected data, noting potential codes and themes. Detailed records of all data field notes, transcripts and journals were kept.
- The second step was to generate initial codes for labelling participants' discussed topics.
- As the third step, the researcher created an Atlas.ti project to gain an overall understanding of the data and search for themes.
- In the fourth step, researchers reviewed the themes and ensured that each theme's extracted data formed a clear and meaningful pattern. They also checked the validity of each theme to ensure that it accurately represented the meanings present in the dataset.
- In the fifth step, researchers defined and named themes by analysing each one, identifying the captured data and assessing how it fits into the research questions.

Because ethics are an essential research component, the researcher sought ethical clearance from the University of South Africa's (UNISA) before beginning data collection. Researchers took the following preventive measures to keep his subjects' identity confidential and to ensure that they remain anonymous:

- The data were kept in a password-protected computer and accessed by the researcher only.
- Efforts were made to exclude personal identifying information during data collection.
- In cases where data collected had personal identifying information, this information was removed during coding and thematic analysis so that it did not appear in the final report.

Informed consent was secured from participants before interviews were conducted.

Ethical considerations

Ethical clearance to conduct this study was obtained from the School of Business Leadership Research Ethics Review Committee (No. 2021_SBL_DBL_016_FA).

Results

Demographics of the participants

All industry experts interviewed were executives, including chief executive officers (CEOs) of different financial services institutions. Fifteen interviewees were male and three were female. The participants had extensive financial services experience, that is their combined experience totalled 274 years. Four were from financial services regulators, eight from incumbent banks and five from fintech organisations (Table 1).

After data analysis, the analysed collated challenges and benefits brought by fintechs in the industry were visually assimilated into a word cloud using Worditout, a free online word cloud generator (Figure 1 and Figure 2, respectively).

These findings were then categorised into different themes labelled as challenges and benefits brought by fintechs. The challenges were further classified into themes representing incumbents' and regulatory challenges (Table 2).

TABLE 1: Demographics of the industry experts.

Respondent	Code	Gender	Position	Type of institution	Financial services industry experience at the time of the interview
Regulatory Expert 1	RE1	Male	Executive	Regulatory	10
Regulatory Expert 2	RE2	Male	Executive	Regulatory	3
Regulatory Expert 3	RE3	Male	Executive	Regulatory	14
Regulatory Expert 4	RE4	Female	Executive-Regulatory	Incumbent Bank	19
Incumbent Expert 1	IE1	Male	Executive	Incumbent Bank	12
Incumbent Expert 2	IE2	Male	Executive	Incumbent Bank	13
Incumbent Expert 3	IE3	Male	Executive	Incumbent Bank	35
Incumbent Expert 4	IE4	Female	Executive	Incumbent Bank	11
Incumbent Expert 5	IE5	Male	Executive	Incumbent Bank	5
Incumbent Expert 6	IE6	Male	Executive	Incumbent Bank	9
Incumbent Expert 7	IE7	Female	Executive	Incumbent Bank	11
Incumbent Expert 8	IE8	Male	Executive	Incumbent Bank	25
Fintech Expert 1	FE1	Male	Executive	Fintech	7
Fintech Expert 2	FE2	Male	Executive	Fintech	10
Fintech Expert 3	FE3	Male	Executive	Fintech	35
Fintech Expert 4	FE4	Male	Executive	Fintech	17
Fintech Expert 5	FE5	Male	Executive	Fintech	3
Fintech Expert 6	FE6	Male	Executive	Fintech	35
Total					274

FIGURE 1: Challenges brought by fintechs.

Challenges brought by the fintechs

Fintechs negatively affect incumbents' businesses and financial services regulations (Arner, Barberis & Buckley 2017). They impact incumbents' competitiveness because they are more likely to innovate faster and quickly identify consumer needs and market gaps that offer new business opportunities (Elia et al. 2022).

Incumbents' challenges

The emergence of fintechs has brought several new challenges to the financial services industry and the business models of incumbents (Tsindeliani et al. 2022). To delve deeper into this, experts were asked to identify the challenges that the emergence of fintechs poses to incumbent financial institutions such as banks. The industry experts mentioned that fintechs are challenging all aspects of the financial services industry. In support of this argument, incumbent expert 7 (IE7) stated that 'Fintech presents new challenges for the incumbents' by 'increasing the amount of competition within the market or the financial services space', FE5 added.

According to the study findings, financial technologies have introduced the challenges presented in Table 3.

FIGURE 2: Benefits brought by fintechs.

TABLE 2: Themes emerged from the data collected from the industry experts' interviews.

Themes	Description
Challenges	Incumbents' challenges presented by fintech
	Regulatory challenges presented by fintech
Benefits	Benefits presented by the fintech

TABLE 3: Incumbents and regulatory challenges.

Challenge introduced by fintechs	Description
Increase competition	Financial technologies are increasing the amount of competition within the market.
Reduce profits	The rise of financial technologies is leading to a reduction in traditional revenue streams.
Expose the inability of the incumbents to be agile and act fast	Larger organisations are slow to respond because of legacy systems and lengthy approval processes.
Regulatory risk	Financial technologies sometimes fall outside the traditional regulatory framework, creating regulatory risk.

Increase competition

Industry experts argued that the emergence of financial technologies is increasing competition for resources such as human capital as more people want to work for the more exciting or innovative fintech organisations versus the incumbents. Fintech expert 5 (FE5) argued that 'financial technologies are increasing the amount of competition within the market'. This corroborates the assertion of Hornuf & Haddad (2019) that financial technologies threaten incumbents' businesses by competing for resources throughout the value chain.

Reduce profits

The industry experts posited that because financial technologies do not have huge overheads, like the incumbents, they can sell their products and services at significantly reduced costs and therefore undercut the incumbents' prices. This results in lower profits. IE7 contended: 'Financial technologies are consuming traditional revenue pools'. This agrees with the assertion of Tsindeliani et al. (2022) that financial technologies create more high-quality products and services at lower prices, forcing incumbents to reduce their prices to compete. These findings also agree with the observations of Camarate and Brinckmann (2019), who posited that financial technologies hurt the profitability of traditional banks and the entire financial services sector in South Africa.

Expose the inability of the incumbents to be agile and act fast

The experts interviewed argued that the incumbents are usually slow to respond to new opportunities and customer demands because of their legacy systems, which have many layers of bureaucracy. In contrast, fintech companies can react very quickly. IE4 argued: 'One of the key challenges financial technologies bring is a conversation around time to market because they do not have legacy systems'. FE4 agreed: 'The challenge in bigger organisations is that they move slowly because of their legacy systems and all the approval processes'. This corroborates the assertions of the World Economic Forum and Accenture (2017) that fintech companies are using technologies to promote an agile culture. These companies react faster than competitors and adapt their business models to the changing environment.

Regulatory challenges

The financial services industry has traditionally been highly regulated. However, fintechs entered the industry with limited or without knowledge of financial services regulation leading to non-compliance (Alblooshi 2022). This has negatively affected the financial services regulations (Tsindeliani et al. 2022). The industry experts interviewed concurred with this. IE4 argued that one of the reasons for this is that:

> '[*F*]intechs are not regulated like banks are. While they play in financial services, they do not have the same level of burden in terms of regulatory reporting requirements. And we [*incumbents*] spend a lot of time reporting to the regulator, ensuring that we meet the regulators' requirements.' (IE4)

The industry experts posited that financial technologies introduce regulatory risk into the industry because, in some cases, they fall outside of the traditional regulatory framework that regulates incumbent financial institutions. IE7 contended: 'Financial technologies introduce some risk in the system'. This corroborates the observations of authors such as Elia et al. (2022) and Nguyen et al. (2021) that financial technologies have brought severe regulatory challenges to the industry. IE2 argued that 'regulation hasn't caught up to fintechs' and 'financial technologies are not regulated like the banks', IE4 added. Therefore, according to IE8, 'they (fintech) can get away with having very light or low regulatory oversight. Yet they can compete with the incumbents, which almost creates an unfair playing field'.

Benefits brought by the fintechs

The industry experts acknowledged that even though financial technologies have impacted the financial services industry negatively, they have also brought some positive changes to the industry (Table 4).

Financial inclusion

According to industry experts, one of the essential positive effects of financial technologies is that they increase financial inclusion. FE2 argued: 'The biggest role financial technologies or digital banks play is around creating access'. IE5 added: 'fintech opens the industry. It gives more people in the country more access to financial products like more access to loans' and:

> '[*O*]nce we can reach more people, we are able to encourage economic trade, and we are able to encourage participation and financial inclusion, and we are able to alleviate poverty.' (IE7)

TABLE 4: Benefits brought by fintechs.

Benefit	Description
Financial inclusion	Fintechs open the financial industry, providing increased accessibility to financial products for more people in the country.
New growth opportunities	The emergence of financial technologies presents fresh prospects for economic growth.
Increasing choices for consumers and making the industry more competitive	Financial technologies provide more options for users, with fintechs bringing in new players to the market.
Reducing costs	Fintech products are affordable, attracting more customers.
Customise financial services	Financial technologies are producing personalised financial service offerings.
Bring convenience	Financial technologies have made banking more accessible, allowing people to bank anywhere and anytime.
Forcing the incumbents and regulators to become more innovative	Financial technologies are introducing new business models and pressuring incumbents and regulators to be more innovative.

This agrees with Senyo and Osabutey (2020) that financial technologies extend financial services to previously excluded or underserved customers. IE7 elaborated:

> 'In South Africa, we have a problem with underbanked people … Therefore, it is important to encourage greater participation … There is a big industry project now called rapid payments, and effectively, it wants to digitise low-value high-frequency payments because it is believed that in South Africa, nine out of ten payments are made in cash. And the average amount spent is, I think, under R150. So, that is significant because it says that people want to trade. And we know that people have debit cards, even more than one but do not use them. You know, when you are at the township, you can see that there is a speed point, but when you ask to use it, the owner says, no, do not use it. Pay me in cash. Those are the things we are talking about when we talk about disruption and economic participation in the under-banked that we need to solve.' (IE7)

In agreement, Regulatory Expert 2 (RE2) argued:

> 'They (fintech) are going to areas where the incumbents cannot normally go because the incumbents normally perceive that area margin-wise to be very thin. So, these guys can go there and take advantage of that market and revolutionise that market.' (RE2)

RE2 continued:

> 'I mean, some of these fintechs, for example, can lend to SMEs, which normally find it difficult to borrow from traditional financial institutions.' (RE2)

IE8 argued that:

> '[*T*]hey (fintechs) effectively facilitate money flow and facilitate granting of credit, which stimulates the economy.' (IE8)

New growth opportunities

Industry experts further argued that financial technologies bring new economic growth opportunities. IE7 contended: 'If people can participate in the economy, people can trade much easier, better, and cheaper. And then it does have a positive effect on the economy'.

RE2 added:

> 'If you want a great economy, you must grow the SME sector. In South Africa, we know that SMEs struggle to get financing from traditional banks, but these financial technologies are willing to lend to them. And you see these SMEs growing so much because of the finance they can get from these fintechs.' (RE2)

This corroborates the argument of Zvirgzdina and Skadina (2019) that financial institutions are using technology to create new technologies that open new business opportunities and markets and expand beyond traditionally known boundaries.

Increasing choices for consumers and making the industry more competitive

The experts added that financial technologies are increasing consumer choices and making the industry more competitive. FE2 argued:

> 'In my mind, there is nothing more powerful than the choice for people … So, financial technologies add one more aspect of choice to the end-user. That is good for competition.' (FE2)

IE7 agreed and added that 'increased competition is great for any market'. RE3 substantiated:

> 'If I look back over the decades, I have been involved in payments in South Africa. In about the mid-nineties or if you start even the early nineties, payments were 100% in a bank's gain. So, only banks were involved in payments. They controlled the end-to-end value chain. There were about two or three bureau services that did debit orders… Suppose we look at where we are now. Thirty-two banks are involved in the payment system. There are three designated clearing participants that are not banks that are in the clearing system … Over 100 system operators are infrastructure providers in the payment system. And over three hundred payment service providers and TPPP (third-party payment providers).'

Thus, 'the financial services industry has become competitive', argued IE4. This corroborates the argument of Hornuf & Haddad (2019) that financial technologies are introducing new products and industry participants, making the industry more competitive.

Reducing costs

According to the industry experts interviewed, financial technologies help by reducing operating costs and the cost of financial products. FE3 posited: 'Through fintech, you can eliminate much of your operational cost'. Therefore, in tandem, IE5 and FE1 contended that 'because of their (fintechs) cost structure, they can charge less price then and attract more customers'. This corroborates the assertions of Gomber et al. (2017) that financial technologies create affordable and cost-effective technology-based business models. Therefore, they can reduce services and product fees. Consequently, according to Sokolin & Low (2018), financial technologies are expected to save the industry up to 1.2 trillion US dollars by 2035.

Customise financial services

The industry experts added that financial technologies are essential in customising financial services and products. FE4 argued: 'Through technology, you can offer better services and propositions to customers'. Therefore, RE2 added: 'Financial technologies are offering consumers personalised products'. This agrees with Lenz (2016) that financial technologies are creating individualised financial services products.

Bring convenience (removing the question of space and time)

'Financial technologies have simplified banking' (IE2). They have broken down the barriers of space and time in banking, allowing people to bank from anywhere and anytime (Lin et al. 2018). People can now choose to visit a bank branch or access services on their phones or other electronic devices

(Buckley et al. 2016). IE7 concurred: 'If you think about it, you had to go to the bank branch for everything then'. IE6 added: 'There was a point when I had to go to a branch to do these things, but now I can do it here. It is at my fingertips'. RE2 agreed: 'Financial technologies are offering consumers convenience … they are enhancing the customer experience'.

Forcing the incumbents and regulators to become more innovative

According to Hornuf and Haddad (2019), financial technologies are introducing new business models and forcing other industry players, such as incumbents and regulators, to become more innovative. The industry experts interviewed corroborated this assertion. IE7 posited:

> 'I think they [*fintechs*] also force us to innovate in the sense that, from a regulatory perspective, if the status quo remained the same, nobody would feel the need to do anything. However, we have a regulator now forced to regulate new technologies.' (IE7)

Discussion of results

The findings showed that fintechs positively and negatively affect the financial services industry and its role players. This is corroborated by the argument of Gomber et al. (2017) that the impact of these technologies has been felt throughout the financial services industry and has had different effects on the various stakeholders within the industry.

The study showed that fintechs address consumer pain points and positively affect the delivery of financial services and products to consumers. They positively affect the customers by lowering prices of financial products and services, increasing financial inclusion, introducing services that are custom-made to address individual customer challenges, improving customer experience and removing the issue of space and time in banking (consumers can bank anywhere and anytime), increasing choices and overall making banking simple and faster.

Fintechs also play a crucial role by expanding financial services into previously untapped markets, creating new economic growth opportunities. They also have positive effects on financial institutions by reducing operating costs, i.e., the removal of the over-reliance on working in brick-and-mortar settings, which attracts several expenses, more agility to the industry and provides the financial institutions with the ability to respond quickly to customers' demands and the changes in the market and enabling financial institutions to deliver services more efficiently. These findings are consistent with the contentions of authors such as Museba, Ranganai and Gianfrate (2021) and Nejad (2022), who argued that fintechs had had a significant impact on the lives of customers by reinventing how financial transactions are carried out. The results also corroborate the assertions of Lenz (2016), who reported that fintechs introduce new business models, improve and personalise financial products and services to give customers personalised experiences, enhance efficiency, increase accessibility and provide high transaction speed. The findings further reiterate Lenz's (2016) and Roszkowska's (2021) argument that fintechs offer a more inclusive financial system with a wide range of participants.

On the contrary, fintechs also introduce new challenges in the industry, such as increasing competition for the incumbents and decreasing incumbents' profits and market share in the financial services industry. Furthermore, fintechs are introducing new risks, such as cybercrimes and other industry regulatory risks, without any mitigation. Fintechs present regulatory challenges because they usually fall outside the traditional regulatory framework. These results corroborate the findings of authors such as Gomber et al. (2017), Tsindeliani et al. (2022) and Nguyen et al. (2021), who reported that fintechs pose a severe threat to incumbents by creating more competition and creating legal uncertainty.

Conclusion

This research showed that fintechs positively and negatively affect the financial services industry and its role players. The study revealed that fintechs hurt incumbent financial institutions by lowering the prices of financial products and services. This ends up reducing industry profits. Furthermore, fintechs have exposed that incumbents are not agile enough and are slow to respond to customer demands because of their legacy systems and bureaucracy. Fintechs also increase competition for the incumbents. Because fintechs are not regulated like the incumbents and usually fall outside the traditional regulatory framework, they are more likely to introduce new regulatory risks into the industry. The fact that fintechs are not subjected to the same regulations as the incumbents creates an 'uneven playing field' because incumbents must invest massive amounts of money to ensure regulatory compliance. In contrast, fintechs are not subjected to the same regulatory scrutiny. In some cases, these risks end up creating regulatory arbitrage.

The positive effects of fintechs in the financial services industry revealed by this study include the ability of fintechs to solve customers' problems by lowering the cost of financial services and products, improving efficiency, improving customer experience by introducing personalised products and services, increasing financial inclusion by extending financial services to the previously overlooked or underserved customers, increasing options for customers so that if they are not happy with their financial institution, they can switch to another instantly, bringing convenience by removing the question of space and time so that customers can access financial services on their mobile devices such as phones and computers anytime and anywhere, making the industry more competitive, introducing new growth opportunities for the industry players (extending financial services to previously unserved areas), reducing operational costs for the financial institutions and making the industry more innovative.

This study investigated the positive and negative effects of fintechs in South African financial services. This is critical for the financial services industry's sustainability. The study will benefit academia by adding to the body of knowledge about fintech research and improving a holistic understanding of this field in emerging economies, inspiring future research on fintech and its applications.

This study provides valuable insights into how business leaders of incumbent companies can use fintech advancements to improve their competitive edge. It also highlights the importance of harnessing the positive impact of fintech. Fintech companies can use the insights to minimise regulatory risks and enhance positive impact to enhance consumers' experience. By comprehending the impact of fintech on different stakeholders, such as established companies, fintech organisations, regulators and customers, leaders in the financial services industry can gain better knowledge on how to minimise any unfavourable outcomes.

This study also contributes to the attainment of Sustainable Development Goals (SDGs) number 8 and 9:

Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation.

Acknowledgements

The authors would like to acknowledge his research supervisor Prof. Vusi Gumede for his guidance throughout the research process, Prof. Nhlanhla Mlitwa for his contribution in writing this article and the author's family for supporting him during the time of compiling and putting this research article together.

Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Authors' contributions

S.C. conceptualised the idea. S.C. developed the structure and key issues of the article. S.C. was responsible for identifying research articles that resonated with the study. S.C. did the fieldwork and data analysis. In addition, S.C. did the write-up under the supervision of N.M. N.M. edited the manuscript and acquired funds for page fees. S.C. did the submission of the article.

Funding information

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

Data availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Disclaimer

The views and opinions expressed in this article are those of the authors and are the product of professional research. It does not necessarily reflect the official policy or position of any affiliated institution, funder, agency, or that of the publisher. The authors are responsible for this article's results, findings, and content.

References

Alblooshi, F.S.A.K., 2022, 'Fintech in the United Arab Emirates: A general introduction to the main aspects of financial technology', in S. Sindakis & S. Aggarwal (eds.), *Entrepreneurial Rise in the Middle East and North Africa: The Influence of Quadruple Helix on Technological Innovation*, pp. 163–178, Emerald Publishing Limited, Leeds.

Arner, D.W., Barberis, J. & Buckley, R.P., 2017, 'RegTech: Building a better financial system', in D. Lee Kuo Chuen & R. Deng (eds.), *Handbook of Blockchain, Digital Finance, and Inclusion, Volume 1: Cryptocurrency, FinTech, InsurTech, and Regulation*, 1st edn., vol. 1, pp. 359–373, Elsevier Inc., Singapore.

Buckley, R., Arner, D.W. & Barberis, J.N., 2016, '150 years of Fintech: An evolutionary analysis', *JASSA: The Journal of the Securities Institute of Australia* 3, 22–29.

Camarate, J. & Brinckmann, S., 2019, 'The future of banking: A South African perspective', *PwC South Africa: A Marketplace without Boundaries* 1–19, viewed n.d., from https://www.pwc.co.za/en/assets/pdf/strategyand-future-of-banking.pdf

Christensen, C.M., 2002, 'The opportunity and threat of disruptive technologies', *MRS Bulletin* 27(4), 278–282. https://doi.org/10.1557/mrs2002.81

Edu, A.S., 2022, 'Positioning big data analytics capabilities towards financial service agility', *Aslib Journal of Information Management* 74(4), 569–588. https://doi.org/10.1108/ajim-08-2021-0240

Elia, G., Stefanelli, V. & Ferilli, G.B., 2022, 'Investigating the role of Fintech in the banking industry: What do we know?', *European Journal of Innovation Management* 26(5), 1365–1393. https://doi.org/10.1108/ejim-12-2021-0608

Elsaid, H.M., 2021, 'A review of literature directions regarding the impact of fintech firms on the banking industry', *Qualitative Research in Financial Markets* 15(5), 693–711. https://doi.org/10.1108/QRFM-10-2020-0197

Gomber, P., Koch, J.A. & Siering, M., 2017, 'Digital finance and fintech: Current research and future research directions', *Journal of Business Economics* 87(5), 537–580. https://doi.org/10.1007/s11573-017-0852-x

Goyal, D., Varma, R., Rada, F., Pande, A., Jauregui, J., Corelli, P. et al., 2023, *Global fintech 2023: Reimagining the future of finance* (Issue May), viewed n.d., from https://www.bcg.com/publications/2023/future-of-fintech-and-banking

Hornuf, L. & Haddad, C., 2019, 'The emergence of the global fintech market: Economic and technological determinants', *Small Business Economics* 53, 81–105. https://doi.org/10.1007/s11187-018-9991-x

International Monetary Fund, 2019, *IMF policy paper. Fintech: The experience so far* (Issue June), viewed n.d., from https://www.imf.org/en/Publications/Policy-Papers/Issues/2019/06/27/Fintech-The-Experience-So-Far-47056

Lenz, R., 2016, 'Peer-to-peer lending: Opportunities and risks', *European Journal of Risk Regulation* 7(4), 688–700. https://doi.org/10.1017/S1867299X00010126

Lin, S., Yu, Y., Wu, C. & Wu, S.-C., 2018, 'The effects of internet banking on financial performance: Evidence from the East Asian countries', *Journal of Accounting, Finance & Management Strategy* 13(1), 105–156.

Liu, J., Li, X. & Wang, S., 2020, 'What have we learnt from 10 years of fintech research? A scientometric analysis', *Technological Forecasting & Social Change* 155, 120022. https://doi.org/10.1016/j.techfore.2020.120022

Mazambani, L. & Mutambara, E., 2019, 'Predicting fintech innovation adoption in South Africa: The case of cryptocurrency', *African Journal of Economic and Management Studies* 11(1), 30–50. https://doi.org/10.1108/AJEMS-04-2019-0152

Museba, T.J., Ranganai, E. & Gianfrate, G., 2021, 'Customer perception of adoption and use of digital financial services and mobile money services in Uganda', *Journal of Enterprising Communities* 15(2), 177–203. https://doi.org/10.1108/JEC-07-2020-0127

Najaf, K., Haj Khalifa, A., Obaid, S.M., Rashidi, A.A. & Ataya, A., 2022, 'Does sustainability matter for fintech firms? Evidence from United States firms', *Competitiveness Review: An International Business Journal* 33(1), 161–180. https://doi.org/10.1108/cr-10-2021-0132

N'dri, L.M. & Kakinaka, M., 2020, 'Financial inclusion, mobile money, and individual welfare: The case of Burkina Faso', *Telecommunications Policy* 44(3), 101926. https://doi.org/10.1016/j.telpol.2020.101926

Nejad, M.G., 2022, 'Research on financial innovations: An interdisciplinary review', *International Journal of Bank Marketing* 40(3), 578–612. https://doi.org/10.1108/IJBM-07-2021-0305

Nguyen, L., Tran, S. & Ho, T., 2021, 'Fintech credit, bank regulations and bank performance: A cross-country analysis', *Asia-Pacific Journal of Business Administration* 14(4), 445–466. https://doi.org/10.1108/APJBA-05-2021-0196

Roszkowska, P., 2021, 'Fintech in financial reporting and audit for fraud prevention and safeguarding equity investments', *Journal of Accounting and Organizational Change* 17(2), 164–196. https://doi.org/10.1108/JAOC-09-2019-0098

Senyo, P.K. & Osabutey, E.L.C., 2020, 'Unearthing antecedents to financial inclusion through FinTech innovations', *Technovation 98*(June), 102155. https://doi.org/10.1016/j.technovation.2020.102155

Singh, A.M., 2004, 'Trends in South African internet banking', *Aslib Proceedings* 56(3), 187–196. https://doi.org/10.1108/00012530410539368

Sokolin, L. & Low, M., 2018, *Machine intelligence & augmented finance. How artificial intelligence creates $1 trillion of change in the front, middle and back office of the financial services industry*, pp. 1–84, https://www.smallake.kr/wp-content/uploads/2018/08/AutonomousNEXT_06_MachineIntelligenceAugmentedFinance.pdf

Sy, A.N.R., Maino, R., Massara, A., Perez-Saiz, H. & Sharma, P., 2019, *Fintech in Sub-Saharan African countries: A game changer?*, vol. 19, issue 04, International Monetary Fund, Publication Services, Washington, DC.

Tsindeliani, I.A., Proshunin, M.M., Sadovskaya, T.D., Popkova, Z.G., Davydova, M.A. & Babayan, O.A., 2022, 'Digital transformation of the banking system in the context of sustainable development', *Journal of Money Laundering Control* 25(1), 165–180. https://doi.org/10.1108/JMLC-02-2021-0011

World Economic Forum & Accenture, 2017, *Digital transformation initiative: Professional services industry* (White paper), viewed n.d., from https://www.weforum.org/reports/digital-transformation-of-industries/

Zvirgzdina, R. & Skadina, H., 2018, 'The effect of macroeconomic factors on business models in Fintech industry', *International Conference 'Economic Science for Rural Development' no. 49*, Jelgava, LLU ESAF, May 9–11, 2018, pp. 260–268.

Appendices start on the next page →

Appendix 1

Fintech experts interview questions

Questions:

1. Tell me about the way fintechs affect the industry, the business of the incumbents and regulation.
2. Do you think financial technologies present the financial services industry with new economic growth opportunities?
3. Tell me about the challenges that fintechs bring to the FS industry.
4. Tell me about the benefits or opportunities that fintechs bring to the FS industry.
5. Do you think fintechs will affect the FS industry in a similar way that online retailers like Amazon and Take a lot have affected the retail industry, and Uber in the taxi industry?
6. Which fintechs do you think are transforming the industry significantly?
7. Do you think the customers in SA are ready for fintechs like branchless banks, cryptocurrency, mobile money, and crowdlending/funding?
8. Do you think SA fintechs are on the same standard as their international counterparts?

Appendix 2

Incumbent financial institutions experts interview questions

Questions:

1. Tell me about the way fintechs affect the industry, the business of the incumbents and regulation.
2. Do you think financial technologies present the financial services industry with new economic growth opportunities?
3. Tell me about the challenges that fintechs bring to the Financial Services (FS) industry.
4. Tell me about the benefits that fintechs bring to the FS industry.
5. Do you think fintechs will affect the FS industry in a similar way that online retailers like Amazon and Take a lot have affected the retail industry, and Uber in the taxi industry?
6. Which fintechs do you think are transforming the industry significantly?
7. Do you think the customers in SA are ready for fintechs like branchless banks, cryptocurrency, mobile money and crowdlending/funding?
8. Do you think SA fintechs are on the same standard as their international counterparts?

Appendix 3

Regulatory experts interview questions

Questions:

1. Tell me about the way fintechs affect the industry, the business of the incumbents and regulation.
2. Do you think financial technologies present the financial services industry with new economic growth opportunities?
3. Tell me about the challenges that fintechs bring to the FS industry.
4. Tell me about the benefits that fintechs bring to the FS industry.
5. Do you think fintechs will affect the FS industry in a similar way that online retailers like Amazon, Take a lot and Uber have affected the retail industry and the taxi industry, respectively?
6. Which fintechs do you think are transforming the industry significantly?
7. Do you think the customers in SA are ready for fintechs like branchless banks, cryptocurrency, mobile money and crowdlending/funding?
8. Do you think SA fintechs are on the same standard as their international counterparts?